

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/552,985

Filed: April 21, 2000

Inventors:

Sai V. Allavarpu

Rajeev Angal

Gihan R. Karunaratne

Mark B. McCall

Title: CORBA Metadata Gateway to

Telecommunications

Management Network

Examiner: Dinh, Khanh Q.

Group/Art Unit: 2151

Atty. Dkt. No: 5181-46200

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Claims 1-31 remain pending in the application. Reconsideration of the present case is earnestly requested in light of the following remarks. The Examiner rejected claims 1-5, 7-12, 14 and 17-31 under 35 U.S.C. § 103(a) as being unpatentable over Carre (U.S. Patent 6,282,579) in view of Hamilton et al. (U.S. Patent 5,758,186) (hereinafter "Hamilton"), and claims 6, 13, 15 and 16 as being unpatentable over Carre in view of Hamilton and further in view of Kung et al. (U.S. Patent 6,775,267) (hereinafter "Kung"). Applicants note the following clear errors in the Examiner's rejection.

In regard to claim 1, Carre in view of Hamilton fails to teach or suggest a client generating a request for type information for an attribute or event pertaining to management of one or more managed network objects, wherein each managed network object is a computer programming language object representing one or more devices on a network. The Examiner erroneously equates any address conversion performed as part of any remote procedure call with a client specifically *generating a request for type information* for an attribute or event pertaining to management of one or more managed network objects. Performing an address conversion does not teach or suggest a *client generating a request* for type information. Carre describes how objects interact and communicate using a CORBA infrastructure passages (Abstract, FIG. 2A, 2B, as well as column 3, line 18 to column 4, line 62 and column 6, lines 10-35). Carre's system converts an address type with an address value according to

one addressing mode to a corresponding type of another specification language or addressing mode (Carre, column 1, line 59 - column 2, line 6; column 2, lines 11-14; lines 25-28; and lines 34- 39). Converting address types and object interfaces as part of a protocol conversion, as taught by Carre in view of Hamilton, does not include *a client generating a request* for type information.

Clients in Carre's system do not generate requests for type information, but instead request a specific service from a particular server object (Carre, column 3, lines 47-53). In a system resulting from the Examiner's combination of Carre and Hamilton, type and address conversion may take place, **without the agent (client) knowing** that such conversions are performed on the parameters, data, and addresses of various requests between Carre's manager and agent objects and without the agent (client) **generating a request for type information** for an attribute or event. Moreover, there is no need in Carre's system for a client to generate a request for type information for an attribute or event. **In fact, a main purpose of Carre's teachings is to perform the address type conversion for the client so that the client does not have to modify it's own interface in order to communicate with an object employing a different addressing mode.** See, e.g., col. 1, line 43 – col. 2, line 6. **Therefore, Carre actually teaches away from a client generating a request for type information for an attribute or event.**

Furthermore, Carre in view of Hamilton also fails to disclose *sending the request for type information generated by a client to an object request broker.* The Examiner relies on Hamilton, again citing Hamilton, Fig. 1, abstract, column 3, lines 4 – 67 and column 4, lines 14 – 60. Like Carre, Hamilton does not teach or suggest anything about sending *a request for type information* to an object request broker. In the Advisory Action, the Examiner erroneously equates the automatic type and conversions performed as part of a protocol translation with the specific limitation of a client generating a request for type information. Specifically, the Examiner refers to “managing operations such as OSI objects on the Agent upon requests from the Manager unit” and cites item M of Fig. 2a from Carre. However, Carre (in view of Hamilton) does not describe the manager unit as sending a request for type information or receiving a request for type information generated by a client. The cited art's data marshalling and method invocations may involve address conversion, but do not involve sending a request (generated by a client) for type information to an object request broker.

Furthermore, Carre in view of Hamilton further fails to disclose a metadata gateway receiving the request for type information from the object request broker and reading the type information from a metadata repository, wherein the type information is stored in a database format in the metadata repository. Please refer to Applicants' Response to Final Action filed August 6, 2007 for a detailed argument regarding these limitations.

Carre in view of Hamilton also fails to disclose the client receiving the translated type information for the attribute or event through the object request broker. The Examiner cited portion of Carre is part of a description of converting objects from ASN to IDL and vice versa as well as caching of converting object instances. As described above, converting CMISE and CORBA objects is not the same as client generating a request to type information, and receiving the translated type information for the attribute or event through an object request broker. Carre and Hamilton both teach remote procedure call mechanism for executing remote methods over a network. Clients in Carre's system, even if combined with Hamilton, do not receive any translated type information through an object request broker. Automatic address and/or type conversions performed as part of Carre's protocol translation are performed on communication message *sent between Carre's agent and manager units*. The converted data, parameters and address are sent to the receiving object. Any address or other information converted or translated by Carre's system is not returned to the object or unit sending the request.

Regarding claim 10, **Carre in view of Hamilton fails to teach or suggest a client generating a request to encode type information for an object, attribute, or event pertaining to management of one or more managed network objects, wherein each managed network object is a computer programming language object that represents one or more devices on a network.** The Examiner refers to Agent 1 of FIG. 3a, equating Agent 1 to the client of claim 10. However, clients in Carre's system **do not generate requests to encode type information** for objects, attributes or events. Instead, client objects in Carre's system invoke services provided by server objects, via a standard CORBA interface (Carre, column 1, lines 9-19; column 1, line 59-column 2, line 46; column 5, lines 49-59). Carre's address conversion has nothing to with a client *generating a request to encode type information for an object, attribute or event*. Instead, Carre's address type conversion is performed as part of communicating with CMISE object that appear as CORBA objects.

Additionally, **Carre in view of Hamilton does not teach or suggest sending the request to encode type information to an object request broker.** The Examiner cites ORB and CMISE Gateway of FIG. 3a. However, the ORB of Carre, even if combined with Hamilton, does not receive a request to encode type information from a client. Instead, Carre teaches object request brokers provide an infrastructure that enables objects to communicate in a distributed environment such that "it makes no difference" to the requesting objects in which computer system or in which form the target object is implemented (Carre, column 3, lines 56-63).

Carre in view of Hamilton also fails to teach or suggest a metadata gateway receiving the request to encode type information from the object request broker. The Examiner relies on Hamilton, citing Fig. 1, column 3, lines 4 – 67 and column 4, lines 14 – 60. As noted above, the cited passages of Hamilton describe a remote procedure call mechanism. Nowhere does Hamilton, even in view of Carre, teach or suggest a metadata gateway receiving the request to encode type information from the object request broker.

Carre in view of Hamilton further fails to teach or suggest storing the type information in a metadata repository, where the type information is stored *in a database format* in the metadata repository. The Examiner does not mention this limitation in the rejection of claim 10 at all. The Examiner has previously referred to Carre's conversion of address types from OSI types. However, these portions of Carre refer to the caching of structures, such as object instance values and object reference pairs for addresses already in an entity. Caching of object values and references is not the same as storing type information in a database format in a metadata repository. Additionally, as noted above regarding the rejection of claim 1, the CMISE/IDL interface unit of Carre is clearly a communication interface that allows non-CORBA objects to be interacted with via standard CORBA interfaces (Carre, column 5, lines 21-39). The CMISE/IDL interface unit is clearly not a metadata repository. Please refer to Applicants' remarks above regarding the rejection of claim 1 and to Applicants' Response to Final Action, filed August 6, 2007 (pp. 8-11) for a more discussion regarding the rejection of claim 10.

Regarding claim 14, Carre in view of Hamilton fails to teach or suggest a metadata repository comprising metadata concerning object classes for a plurality of managed objects, wherein the metadata comprises information expressed in a database format, and wherein the managed objects are computer programming language objects corresponding to managed devices on a network. The Examiner cites CMISE/IDL of FIG. 3a as well as the abstract, FIGs 2A, 3A, column 3, lines 18-55 and column 5, lines 4-38 of Carre. However, as noted above, regarding the rejections of claim 1 and 10, the CMISE/IDL interface unit cited by the Examiner is clearly a communication interface that allows non-CORBA objects to be interacted with via standard CORBA interfaces (Carre, column 5, lines 21-39). **The CMISE/IDL interface unit is clearly not a metadata repository.**

Carre in view of Hamilton also fails to teach or suggest a metadata gateway coupled to the metadata repository and to an object request broker, where the metadata gateway is operable to send and receive metadata from the database, where the metadata gateway provides translation of the metadata to and from the database format and an interface definition language. The Examiner admits that Carre fails to teach this limitation of claim 14 and relies on Hamilton, again citing Fig. 1, column 3, lines 4 – 67 and

column 4, lines 14 – 60. However, Hamilton’s remote procedure call mechanism, even if combined with Carre’s teachings, does not involve, nor pertain to, a metadata gateway that provides translation of metadata to and from a database format and an interface definition language. Hamilton teaches that protocol-dependent values that match a method descriptor are located in a database and passed to a server stub that executes the method indicated by the method descriptor (Hamilton column 1, line 56 – column 2, line 34; FIG. 3; column 5, lines 20-39; and column 6, lines 23-45). Hamilton does not teach any translation of metadata to and from a database format and an interface definition language. Instead, Hamilton, even when combined with Carre, teaches that values (e.g., protocol-dependent values) are located in a database and passed without translation to server stub processes for use when executing an indicated method. Please refer to Applicants’ Response to Final Action, filed August 6, 2007 (pp. 12-13) for a more discussion regarding the rejection of claim 14.

The Examiner’s rejection of many of the dependent claims is additionally erroneous. For example, the cited art is clearly insufficient to support the rejection of claims 2, 11, 17, 23 and 28 as discussed in detail in Applicants’ previous response on pp. 8, 11-12 and 14-15.

In light of the foregoing remarks, Applicants submit the application is in condition for allowance, and notice to that effect is respectfully requested. If any extension of time (under 37 C.F.R. § 1.136) is necessary to prevent the above referenced application from becoming abandoned, Applicants hereby petition for such an extension. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 501505/5181-46200/RCK.

Respectfully submitted,

/Robert C. Kowert/
Robert C. Kowert, Reg. #39,255
ATTORNEY FOR APPLICANT(S)

Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C.
P.O. Box 398
Austin, TX 78767-0398
Phone: (512) 853-8850

Date: September 4, 2007